

Student Perspectives of Extended Clinical Placements in Optometry: A Qualitative Study

Jacqueline Kirkman (✉ jac.kirkman@deakin.edu.au)

Deakin University

Sharon Bentley

Queensland University of Technology

James Armitage

Deakin University

Craig Woods

UNSW Sydney

Research Article

Keywords: Clinical placements, longitudinal clerkship, students, supervisors, training, education

Posted Date: December 31st, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-129442/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Version of Record: A version of this preprint was published at BMC Medical Education on January 25th, 2022. See the published version at <https://doi.org/10.1186/s12909-022-03132-0>.

Abstract

Background

The number of students enrolled in health courses at Australian universities is rising, increasing demand for clinical placements. Optometry students have historically undertaken clinical training in short-block rotations at University-led teaching clinics in metropolitan locations. This is changing, with some optometry programs adopting extended placements similar to the longitudinal clerkships seen in the medical field. These placements are conducted in private community-based practices across Australia and New Zealand with many incorporating a rural component to the training. This study sought to explore optometry students' experience of extended placements.

Methods

Nine focus groups were undertaken with 42 final year optometry students upon completion of a 26 week placement (of which at least half was undertaken in a non-metropolitan area, or area where a shortage of optometrists has been identified). Focus groups were audio recorded and transcribed verbatim. Thematic analysis was conducted according to Braun and Clarke's 6 step method. Key themes were determined following an inductive qualitative descriptive approach to analysis.

Results

Four key themes emerged from the analysis. 'Changing identity', was about how the students grew both personally and professionally, with the extended placement being considered the vital component that allowed students to begin thinking of themselves as clinicians. 'Practicing resilience' related to circumstances where students experienced personality clashes, miscommunications, bullying, and boundary crossing. 'Optometrist under instruction', related to students feeling that the placement was an ideal opportunity to trial the everyday reality of work without the obligation of an ongoing commitment or employment contract. Finally, 'Rural practice is more rewarding', was about practicing rurally being a 'rite of passage', a chance to seek different experiences, meet new people and for students to challenge themselves professionally.

Conclusions

Students felt that the placement prepared them for real-world practice. The majority of students enjoyed their placements. However, there were instances where the student-supervisor relationship was strained. This resulted in high levels of anxiety that was made worse by a perceived lack of university support. Students believed rural placements offered them a richer experience when compared with metropolitan placements.

Background

Clinical placements during a student's education are regarded as critical to achieving clinical skill proficiency, confidence and professional behaviour. Traditionally, clinical training of medical, nursing and allied-health students in Australia has occurred in public hospitals or university-led teaching facilities in metropolitan locations. These placements have frequently been conducted in short-block rotations. As the number of students in health courses is rising, Universities and clinical education providers look for alternative methods of student placement (1). Furthermore, there is a growing body of evidence criticizing short placements, predominantly because they are seen to be difficult learning environments for students (2). Their transient nature may mean students are unable to participate wholly in patient care (3). Due to time constraints, students may not have an opportunity to foster rural connectedness, which is important in rural practice. Moreover, frequent changes in clinical supervisors can lead to students struggling with different supervisor styles and expectations.

Extended clinical placements, modelled on the longitudinal integrated clerkships (LICs) used in medical training, have been adopted by some Australian optometry programs. Extended placements (typically ranging from 6 to 54 weeks (4)) have been used to manage some of the issues associated with short placements. In particular, they focus on the capacity for students to experience continuity (5). Continuity has been described in terms of; patient care, which enables students to build trust and a professional relationship with their patients; geographical continuity, which allows students to access information from electronic records and achieve diagnostic closure and learn from their decisions; and supervisor continuity, which allows mutual confidence to be built between student and supervisor (3, 6). In medicine, extended placements have been shown to create an increased sense of belonging and the development of collegial relationships between the student and supervisor (7). Investigations in the medical profession have shown that academic performance during LICs are equal to academic performance in traditional rotational based clerkships (8, 9). Furthermore, extended placements can be a means for academic institutions to accommodate increasing numbers of students (7). Extended placements are often based in non-metropolitan locations and as such give students a chance to experience life in a rural setting. Concerns related to extended placements include; lack of variability in clinical exposure, increased financial burdens for students, increased burden for clinical supervisors, and increased administrative burden for academic clinical coordinators.

Although there has been research focusing on medical and nursing student education, there is a dearth of studies investigating clinical placements in the optometry profession. This study aimed to develop an understanding of the experience of extended clinical placements from the perspective of final year optometry students, including whether or not students perceived a difference between urban and rural placements.

Methods

The study adhered to the tenets of the Declaration of Helsinki and was approved by the Deakin University Human Research and Ethics Committee (HEAG-H 142 2017).

This Australian study sought the views of students from Deakin University's Bachelor of Vision Science/Master of Optometry program. The three and half year accelerated trimester program was established in 2012, in part to address the shortage of optometrists in regional and rural Australia. The program includes a compulsory extended clinical placement in the final six months. The placement is 26 weeks, and since 2016 at least half must be completed in a designated non-metropolitan setting or area where a shortage of optometrists has been reported (10). Students undertake the placement in an accredited private community practice anywhere in Australia or New Zealand.

All 152 Deakin Optometry final year students of the graduating cohorts of 2018 and 2019 were invited to participate in focus groups. Participation was voluntary and all participants provided informed consent. The focus groups occurred following the students' extended clinical placement in May 2018 and May 2019. Nine focus groups with between 4 to 5 participants were conducted face-to-face and ran for approximately 60 minutes. They were conducted by the first author, an optometrist trained in qualitative techniques and interviewing. A semi-structured interview guide developed by the authors was followed and consisted of core open-ended questions with additional prompts to elucidate further detail (appendices 1). Lines of questioning focused on:

1. The positives and negatives of the placement.
2. Whether the students felt prepared for the placement.
3. How the placement could have been improved.
4. Whether the rural placement differed from the urban placement.

Analysis

An inductive qualitative descriptive approach was taken (11, 12). Each focus group was audio-recorded before being transcribed verbatim by an external agency (Pacific Transcription, QLD Australia). Each transcript was audio-checked by the first author and an additional researcher for accuracy and to ensure data immersion occurred. Qualitative data were analysed in Nvivo Pro software, Version 11 (QSR International Pty Ltd, Doncaster, VIC Australia) independently following the principles of thematic analysis according to Braun and Clarke's 6-step method (13) by two researchers, one optometrist (the first author) and one non-optometrist. This approach was considered appropriate as the views of optometry students have not previously been investigated and the authors sought to maintain a broad analytic scope thereby allowing the potential for the development of truly innovative themes (13). The process was recursive in nature with the researchers developing thematic mind-maps to further refine themes. Participants' language was used in all levels of coding to ensure that participants' voices were clearly articulated. Discussion with the rest of the research team was undertaken before a final report of themes was generated.

Results

Characteristics of participants

Forty-two students participated (28% participation rate). The majority were female (28 of 42, 67%). Participants represented a range of geographic locations with the majority from a large capital city (20 of 42, 48%) followed by an outer metropolitan area or small capital city (11 of 42, 26%), large regional centre (4 of 42, 9%), small regional centre (1 of 42, 2%), rural area (4 of 42, 9%) or remote area (2 of 42, 5%).

Themes

Four main unifying themes and eleven subthemes emerged (Table 1).

Table 1
Themes and subthemes: Student perspectives

Theme	Subthemes
Theme 1: Changing identity	<ul style="list-style-type: none"> • Moving from student to clinician • Personal development and growth
Theme 2: Practicing resilience	<ul style="list-style-type: none"> • Power dynamics and managing relationships • Lacking an advocate • Expectations not met • Lack of control, burn out and burdens
Theme 3: Optometrist under instruction	<ul style="list-style-type: none"> • Complete immersion and trial without commitment • Needing a mentor • Fear and uncertainty
Theme 4: Rural practice is more rewarding	<ul style="list-style-type: none"> • Rite of passage • Lack of ophthalmology support • The drive to return home

Theme 1: Changing identity

The students spoke enthusiastically about the extended placement being the vital component which allowed them to transition from student to clinician. They discussed coming to the realisation that real-world clinical practice often differed to textbook examples. They felt that their study at University gave them the foundational skills but that the placement truly enabled them to begin thinking of themselves as an optometrist. The extended duration of the placement was perceived as the key factor.

P51 "I think the first three months was more about just polishing skills, trying to figure out how to see a full patient consult....the next three months it was more consolidating it all.....the finishing touches I suppose....by the end, it was more that the supervisor was just there for formality. You didn't actually need them to teach you anything new."

The majority of students described an initial phase of apprehension and uncertainty while they 'settled in'. A sense of comfort came with the continuity offered by the extended placements. Students detailed progressing from feeling like an outsider to an accepted member of the team. The duration enabled them to develop a good working relationship with staff and, in particular, their supervisor. Students felt that they were of more help to the practices because they were there for a longer period of time; increasing the sense that they were a legitimate asset to the practice.

P34 "You start building relationships. You start making friends. You've got some good co-workers. And you're like "I could fit in here." Whereas maybe if you're only there for a week or two, you wouldn't have that"

Many of the students described how remaining in one location for a longer period of time enabled them to become immersed in the community. This was particularly evident during their rural placement, where they recounted how their experiences gave them a sense of connectedness to the community.

P36 "Coming to a smaller town I know when I moved, within weeks I had several optometrists who have embraced me and taken me out. So that's been really nice. I don't think I would get that if I was working in a city"

Students felt their rural placements offered them the greatest learning opportunity as they described seeing a greater diversity in patients, pathology and exposure to therapeutic prescribing. The majority suggested that it was during their rural placements where they experienced the most clinical growth.

P48 "My two placements were quite different, in pathology-wise and experience. One of my placements was like right in the CBD, and it was a lot of just refraction, people just coming in for glasses. It was a lot of the same stuff. But then in my other one, it was more rural and I found there was a lot more pathology...there was a lot more therapeutics. So it was probably a better experience in terms of pathology-wise. It made it a bit more interesting rather than just everything being about the glasses."

For a number of the students, their time on placement was their first experience living independently. While this was initially anxiety-provoking, they expressed feeling safe to extend themselves as there was comfort in knowing that they were only committed for a relatively short period of time. Some students used the placement as a time to try something new. For a few students, it was also their first exposure to adult working life.

P55 "I've always been at home and I'm pretty sheltered...So I was like 'Oh this is my opportunity to go somewhere else where I've never been before."

P44 "I just wanted to throw myself out there and do something different. And it's just six months. Why not?"

Theme 2: Practicing resilience

Students repeatedly emphasised the supervisor-student relationship as being the single most important factor in their placement experience. Although the majority of students had a good working relationship with their supervisor, some described circumstances where personality clashes, miscommunications, bullying, and boundary crossing occurred.

P52 "I think it's very supervisor-dependent. My supervisor didn't like taking students, straightaway didn't like me, didn't give me a chance. Every day, I went in with anxiety and came home crying..... The hardest part about placement was managing that relationship."

A few students described having supervisors who seemed to be unsure about how to approach supervision and appeared resentful of the student's presence.

P41 "I felt like I was being treated like an inconvenience."

P37 "I do think that not everyone can be a teacher....."

They expressed their unease during circumstances where they felt they were being used as a member of staff or as a personal assistant, to the detriment of their learning, and without financial reimbursement.

P76 "Sometimes I had to do jobs like, go pick up my supervisor's kids from school."

Students perceived there to be a large power differential between them and the supervisor. In the majority of instances, students chose not to raise issues with the supervisor or advise the University of their concerns. This was because they feared reprisal, being seen as a troublemaker or that word would spread to potential future employers of them being 'difficult'. Instead, they described 'dealing with it'.

P58 "I was afraid to speak up and challenge them because they've got the power to mark us down and make an issue for me with the Uni as well. So in the end, I had to just kind of put my head down and just do what they said."

P53 "I felt that—look I'm here for three months. I've got to see them four days a week. If I get on their bad side, I'm screwed. It's that power imbalance, and also that anxiety, that what would happen if I say no?.....It's not right but that the same time you could get backlash."

In some instances, the students did seek assistance from the University to resolve concerns but were not satisfied with the response. Some students felt that the University valued the relationship with the supervisors more than the students.

P38 "I had a problem so I approached them (the University). I approached them so many times. But they were sort of ignorant to what I was saying. They sort of just—rubbed me off—said that I'd just have to get by."

However, this was in contrast to the experience of other students who did feel supported by the University when they experienced issues while on placement.

P39 *“Deakin was incredibly supportive. They were my advocates....they really supported me.”*

P55 *“Yes I did (feel supported). I emailed Deakin a lot, and they would email back either that day or the next day and answer my questions. It’s just reaching out. They don’t actively reach out to us, but if we reached out to them, they would help us.”*

Relocation and transport costs were particularly challenging for students who were not able to attend placement where they had existing networks. For many students, relocation for placement resulted in loss of employment income. Students described the stress which came from reduced earnings, particularly where they had existing financial commitments, such as mortgages and partner considerations. Often they were not able to return home to visit family and friends during placement due to the cost. Students described wanting the experience of rural remote placement, but that the associated expenses were too much of a disincentive.

P34 *“placement was really hard financially and I didn’t get to go home.... So being away from home without being able to work, that was really hard.”*

P39 “I would have loved to have gone more remote but I couldn’t afford it.”

The availability accommodation was location dependent. Where students had difficulty, they lamented that they had limited support from the University. In some circumstances students were required to relocate multiple times, sometimes over vast distances, in a limited period of time.

P48 *“I had to move from (one state of Australia) to (another state of Australia) and because there was no break—it was exhausting trying to move all my stuff up there because I drove. I needed my car up there and I couldn’t afford to transport it.....that was very stressful.”*

Negotiating unfamiliar environments and new transport systems was difficult for some students but offered a sense of independence when achieved. Confronted with social isolation, some students expressed intense loneliness and boredom. One student described not seeking to ‘make friends’ as they did not intend to stay in the location. Some students described experiencing ‘burnout’ towards the end of their placement.

P48 *“I didn’t see anyone or do anything really. Yeah, I felt really lonely. But then also, I kind of had a bad mindset about it because I was like, “Oh, I just want to leave here. I just want to finish and leave.” So I wasn’t really putting an effort to make friends and stuff because I’m like, “What’s the point? I’m leaving anyway.”*

P48 *“I think I was starting to get worn out by maybe the four, five month mark. And I was just like ‘I just want it to be done.’”*

Theme 3: Optometrist under instruction

The students saw the placement as ideal in that they were able to trial the everyday reality of work within the practice without the obligation of an ongoing commitment or employment contract.

P44 "...you can see for yourself where you'd want to work afterwards. And knowing that's just temporary, you can last through it. If you don't like it, it's okay, it's going to be just three or six months."

Overwhelmingly, students were positive about the compulsory aspect of the rural placement, citing that it took them to practice locations many of them would have not otherwise considered. For some, this completely altered their future practice intentions.

P33 "I had no intention of working in a rural setting until I went to (rural location)"

P40 "I grew up in Melbourne and I love Melbourne. I thought I would always want to stay around there but then I went to (rural location) and I was really happy and it's just so nice to have no traffic lights."

Despite there being a generally positive attitude towards training in a rural environment, students feared being isolated as a new graduate. They described actively avoiding employment in practices where they would be the sole practitioner, as they were apprehensive about the increased responsibility.

P52 "One of my first questions was 'Is there anybody else there that will help me?' and if the answer was no, then that straightaway turned me off going because that's a big deal—to go from having your hand held at placement, and going to Uni—to your first ever job. So yeah, I would look for a mentor for my first year out."

The students highlighted the physical presence of a mentor to work alongside as a key element when choosing their future employer. The ability to ask their mentor questions and seek clarification and receive confirmation on clinical judgements was of utmost importance to them as new graduates.

Theme 4: Rural practice is more rewarding

Students described the importance of finding a practice and a location that would suit their lifestyle and hobbies. Some students spoke of the desire to practice rurally as if it was a 'rite of passage', a chance to seek different experiences, meet new people and challenge themselves professionally. Many found rural communities more embracing, friendly and relaxed. Others enjoyed the natural surroundings of rural areas. Keen to achieve a work-life balance, students found the concept of rural practice attractive.

P36 "Although I grew up in Melbourne, I've spent most of my adult life in regional towns and I think that's definitely reinforced that I want to stay. Basically it's the sort of environment that I've loved."

Many students were attracted to the large remuneration packages being offered in rural locations on graduation. Others had altruistic reasons for wanting to practice in rural locations, as they felt this was where their clinical skills were most needed. Conversely, some were concerned that there would be nothing of interest to them in a rural community and others were concerned that there would be no work for their partners. For those without partners, they were concerned they would not meet potential suitors.

Some students expressed that they were hesitant to accept roles in some rural and remote areas predominantly due to the lack of access to ophthalmology care and support. Overwhelmingly though, the students stated that they wanted to return to a similar location to where they grew up.

P52 "I don't like big cities because I'm not from one. I did do placement in a big city. But I didn't like it (the location). I'd rather stay in the county. So because I'm from there, I'm more likely to go back."

In particular, female students described how their long-term career aspirations differed from their short-term aspirations. The most common reason cited for this was the desire return home to raise children close to their own family.

P37 "I would like ultimately to move back because this is where I want to raise my kids. I would like my kids to go to the same high school I went to. Grow up in the same area as I did. I feel like it's a much better environment."

Discussion

To our knowledge, this is the first study to report optometry students' experiences of extended clinical placements. In accordance with the aim, this study used descriptions of the lived experience of students who undertook an extended clinical placement, leading to insights and an in-depth understanding of the factors which influence placement success and satisfaction.

Findings reinforce the concept that extended clinical placements provide students with greater continuity in setting, supervisor and patients (3, 6). Overall, students reported positive experiences of the extended clinical placement, viewing it as the most important factor in their preparation for professional practice. The familiarity offered by remaining in the same setting for at least 13 weeks meant that students could fully engage in learning opportunities and concentrate on their clinical training (6).

This study highlights the complex dynamic between students and their supervisors and the role resilience plays in this. Having a positive relationship between student and supervisors has repeatedly been identified as the most important factor in placement satisfaction (14). Bullying and harassment of students during their clinical training by their supervisors has been widely reported in the nursing literature (15-17). In the present study, fearful that their supervisor had the power to influence their career, students were reluctant to raise concerns and issues with the University. It appears students perceived their supervisor as a role model who could either enable or constrain their learning and development, as well as their future career opportunities. Furthermore, there is a tendency for students to feel indebted and dependent on the supervisor, and thus this relationship should be navigated with the utmost care.

There is some literature to support the notion that where students have a positive placement experience in a non-metropolitan location they will be more likely to seek employment in such areas on graduation (18, 19). Students in this study described the rural placement as giving them exposure to a more diverse range of pathologies, the chance to develop independence both personally and professionally, and often

more meaningful mentor connections. These findings were similar to those described by Voss et al. (20) in their analysis of student experiences in a South African rural LIC whereby students chronicled that they felt better prepared for practice than their colleagues on more traditional clerkships. This was because they saw a greater number of patients, had a greater diversity in caseload, and exposure to a more complete patient management journey (20). However, in the present study students lamented that the rural placements came with a greater financial burden and there was potential for isolation to be experienced more strongly as it was less likely students were able to return home at weekends.

This study also supports the concept that the longitudinal nature of the placement is of central importance in students developing rural connectedness and ultimately returning to a rural setting to practice (18, 21). Previous studies have reported that where students are well prepared and adequately supported, immersion in settings of different cultural beliefs and practices leads to valuable learning experiences (22). Undertaking a rural placement exposed students to the reality of living in a regional or rural community. Such exposure makes it more likely students will gain an understanding of the impact of health disparities in the local community.

While in general the literature suggests the 'longer the better', the ideal length of longitudinal clinical placements is still under debate (5). The students in this study undertook a 26 week placement at a maximum of two community based sites. Worley et al. (4) reported LICs for medical student with lengths ranging from 6 to 54 weeks, and a median length of 40 weeks. Crampton et al (23) reasoned 14 weeks is sufficient to allow meaningful mentor connections to be built while others have identified a 'turning point' between 4 and 20 weeks where the cost verse benefit to the student and supervisor begin to balance (24).

Almost all optometry graduates will be employed in private community-based practices, thus it is sensible that Universities prepare students sufficiently for this by facilitating placements in community based settings. However, the long-term sustainability of such placements has not yet been determined in optometry. With increasing student numbers, whether community optometrists will remain willing to provide placements is yet to be seen. Whether there is the potential for practitioners to be reimbursed for their supervisory responsibilities needs to be highlighted with governing bodies.

STRENGTHS AND LIMITATIONS

A strength of this study is that despite the participation rate of 28%, data saturation was achieved. However, a limitation is that it was a single-institution study. The current body of literature has explored clinical placements and supervision in 'discipline silos' (14). This study was no different. Inter-professional collaboration would benefit the field and would most certainly address common systemic deficiencies in clinical placements and may go some way to determining whether the 'rural pipeline concept' typically seen in medicine is also applicable to other student bodies (25). With increased collaboration there is a potential for shared learning and problem solving amongst the health disciplines.

PRACTICE POINTS

- Students need to receive thorough and explicit guidance on extended clinical placement expectations
- Students should be equipped with negotiation and conflict resolution skills
- Ongoing professional development and pedagogical training for supervisors of extended clinical placements is vital
- Funding for student mobility will reduce some of the barriers to uptake of rural placements

Conclusion

All students felt that extended clinical placement provided them the opportunity to grow clinically and that it adequately prepared them for real-world practice. While the majority of students enjoyed their placements, where the student-supervisor relationship was strained, a high level of anxiety occurred. This was made worse by a perceived lack of university support. Students believed they received a richer, more diverse clinical experience during rural placement compared with metropolitan placement. The majority of students felt that a rural career would be more rewarding than practice in an urban environment.

Abbreviations

LIC: Longitudinal integrated clerkships

Declarations

Acknowledgements

We wish to acknowledge and thank all participants involved. This work is supported by an Australian Government Research Training Program Scholarship.

Authors' contributions

JK, SB, JA and CA designed the study. JK analysed the data, drafted and wrote the manuscript. All authors contributed to revising of the manuscript and have read and approved the final manuscript.

Funding

No funding was received for this project.

Availability of data and materials

The datasets generated and analysed during the current study are not publicly available due to the sensitive nature of the data and the consent provided for participation, but are available from the corresponding author on reasonable request.

Ethics approval and consent to participate

Ethics approval for this project was granted by the Deakin University Human Research and Ethics Committee (HEAG-H 142 2017). The study was conducted in accordance with the Declaration of Helsinki. Written informed consent was obtained from all participants prior to participation in the study

Consent for publication

Not applicable.

Competing interests

The authors declare they have no competing interests.

Author details

¹Deakin Optometry, School of Medicine, Deakin University, Waurn Ponds, Australia. ²School of Optometry and Vision Science, Queensland University of Technology, Kelvin Grove, Australia. ³School of Optometry and Vision Sciences, University of New South Wales, Sydney, Australia

References

1. McBride LJ, Fitzgerald C, Costello C, Perkins K. Allied health pre-entry student clinical placement capacity: can it be sustained? *Australian health review : a publication of the Australian Hospital Association*. 2020;44(1):39-46.
2. Thistlethwaite JE, Bartle E, Chong AA, Dick ML, King D, Mahoney S, et al. A review of longitudinal community and hospital placements in medical education: BEME Guide No. 26. *Medical teacher*. 2013;35(8):e1340-64.
3. Asgarova S, MacKenzie M, Bates J. Learning From Patients: Why Continuity Matters. *Academic medicine : journal of the Association of American Medical Colleges*. 2017;92(11S Association of American Medical Colleges Learn Serve Lead: Proceedings of the 56th Annual Research in Medical Education Sessions):S55-s60.
4. Worley P, Couper I, Strasser R, Graves L, Cummings BA, Woodman R, et al. A typology of longitudinal integrated clerkships. *Med Educ*. 2016;50(9):922-32.
5. Bartlett M, Couper I, Poncelet A, Worley P. The do's, don'ts and don't knows of establishing a sustainable longitudinal integrated clerkship. *Perspect Med Educ*. 2020;9(1):5-19.
6. Hirsh DA, Ogur B, Thibault GE, Cox M. "Continuity" as an organizing principle for clinical education reform. *N Engl J Med*. 2007;356(8):858-66.
7. Witney M, Isaac V, Playford D, Walker L, Garne D, Walters L. Block versus longitudinal integrated clerkships: students' views of rural clinical supervision. *Med Educ*. 2018;52(7):716-24.
8. Woloschuk W, Myhre D, Jackson W, McLaughlin K, Wright B, Woloschuk W. How Do Graduates of Longitudinal Integrated Clerkships Fare on the Medical Council of Canada Qualifying Exam Part II? *Creative Education*. 2014;5:1869-72.

9. Myhre DL, Woloschuk W, Jackson W, McLaughlin K. Academic performance of longitudinal integrated clerkship versus rotation-based clerkship students: a matched-cohort study. *Academic medicine : journal of the Association of American Medical Colleges*. 2014;89(2):292-5.
10. Kiely PM, Chakman J. Optometric practice in Australian Standard Geographical Classification– Remoteness Areas in Australia, 2010. *Clinical & experimental optometry*. 2011;94(5):468-77.
11. Patton M. *Qualitative Research & Evaluation Methods* 4th ed: SAGE Publications Inc.; 2015.
12. Sandelowski M. Focus on research methods. What happened to qualitative description? *Research in Nursing & Health* 2000;23(4):334-40.
13. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology*. 2006;3(2):77-101.
14. O'Brien AT, McNeil K, Dawson A. The student experience of clinical supervision across health disciplines - Perspectives and remedies to enhance clinical placement. *Nurse Educ Pract*. 2019;34:48-55.
15. Minton C, Birks M. "You can't escape it": Bullying experiences of New Zealand nursing students on clinical placement. *Nurse Educ Today*. 2019;77:12-7.
16. Birks M, Cant RP, Budden LM, Russell-Westhead M, Sinem Üzar Özçetin Y, Tee S. Uncovering degrees of workplace bullying: A comparison of baccalaureate nursing students' experiences during clinical placement in Australia and the UK. *Nurse Educ Pract*. 2017;25:14-21.
17. Courtney-Pratt H, Pich J, Levett-Jones T, Moxey A. "I was yelled at, intimidated and treated unfairly": Nursing students' experiences of being bullied in clinical and academic settings. *Journal of clinical nursing*. 2018;27(5-6):e903-e12.
18. Playford D, Puddey IB. Interest in rural clinical school is not enough: Participation is necessary to predict an ultimate rural practice location. *Aust J Rural Health*. 2017;25(4):210-8.
19. Smith T, Cross M, Waller S, Chambers H, Farthing A, Barraclough F, et al. Ruralization of students' horizons: insights into Australian health professional students' rural and remote placements. *J Multidiscip Healthc*. 2018;11:85-97.
20. Voss M, Coetzee J, Conradie H, van Schalkwyk S. 'We have to flap our wings or fall to the ground': The experiences of medical students on a longitudinal integrated clinical model. . *AJHPE*. 2015;7(1):119 -24.
21. Forster L, Assareh H, Watts LD, McLachlan CS. Additional years of Australian Rural Clinical School undergraduate training is associated with rural practice. *BMC medical education*. 2013;13:37.
22. Thackrah RD, Hall M, Fitzgerald K, Thompson SC. Up close and real: living and learning in a remote community builds students' cultural capabilities and understanding of health disparities. *International journal for equity in health*. 2017;16(1):119.
23. Crampton P, Hetherington J, McLachlan J, Illing J. Learning in underserved UK areas: a novel approach. *The clinical teacher*. 2016;13(2):102-6.

24. Worley PS, Kitto P. Hypothetical model of the financial impact of student attachments on rural general practices. *Rural and remote health*. 2001;1(1):83.
25. Kirkman JM, Bentley SA, Armitage JA, Woods CA. Could adoption of the rural pipeline concept redress Australian optometry workforce issues? *Clinical & experimental optometry*. 2019.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Appendices1InterviewguideKirkmanBentleyArmitageWoods2020.docx](#)